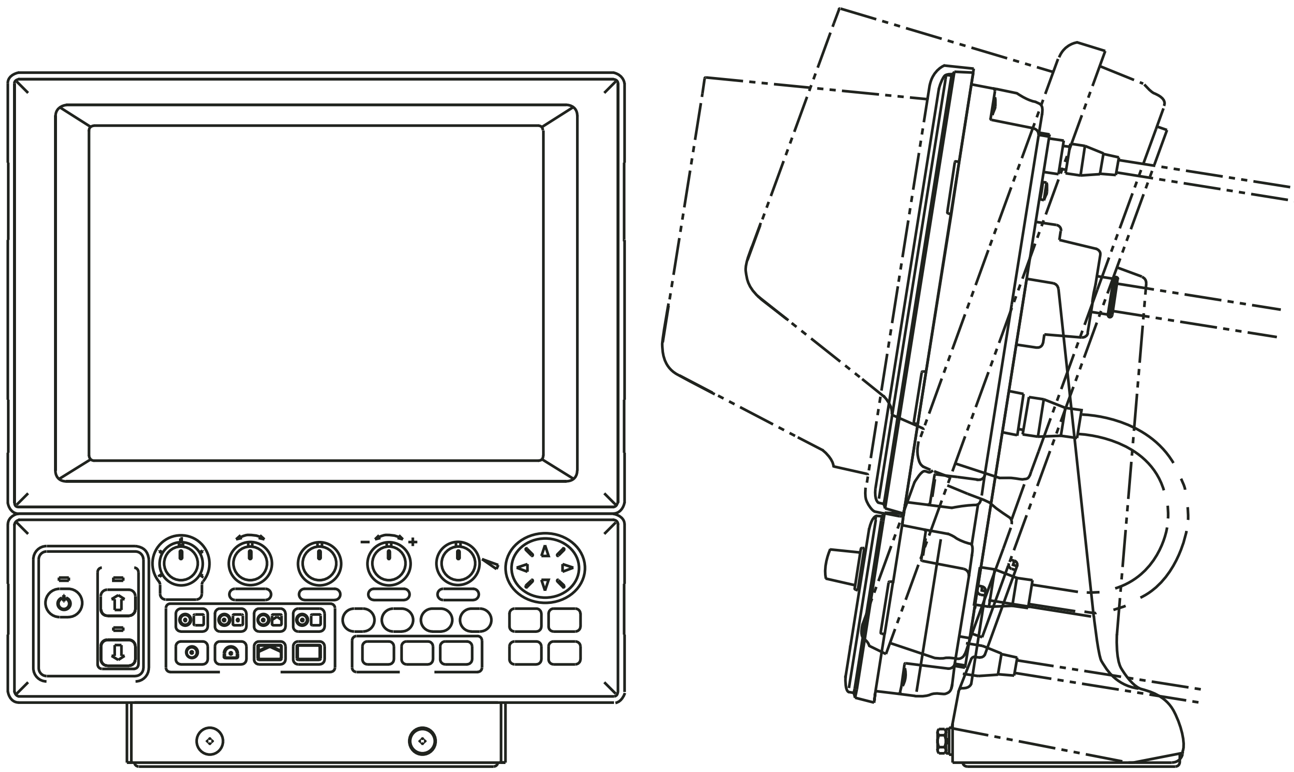
**Please read this supplement to the CH270 Manual first.**

FURUNO® *CH270 Searchlight Sonar*



# Important Technical Installation Information

*The following checklist and information sheets are provided to help you efficiently install your CH270 sonar. If this is a high speed vessel, please pay careful attention to the tube length and fairing instructions.*

# CH270 Installation Supplement Contents

*The following checklist and information sheets are provided to help you properly and efficiently install your CH270 sonar. If this is a high speed vessel, please pay careful attention to the tube length and fairing instructions.*

**Page**



*Please feel free to contact us with any questions that you may have. Additional information such as this may be found on our web site www.Furuno.com.*

*This material is provided to augment, not replace, what is found in your CH270 manuals.*

# CH270 Installation Check Sheet

## Vessel Information

Vessel Name: ____________________

Type: ____________ Use: ____________

Length: ____________ Registry: ____________

Operating Speed: ____________ Hull Type: ____________

## CH270 System Information

CH270 Model: ____________

Serial Number: ____________

Shaft Travel: ____________

System Input Voltage: ____________

## Dealer Information

Dealer Name: ____________________

Address: ____________________ City, State, Zip: ____________

Installed By: ____________________

Date: ____________ Location: ____________________

## Standard System – MU100C Display Check List

Are all cables and connections tight & strapped? ❑ Yes ❑ No

Is NMEA data connected and activated? ❑ Yes ❑ No

What NMEA devices are connected: ____________________

Has CH252 control head installation & operation been checked? ❑ Yes ❑ No

Is the unit grounded properly? ❑ Yes ❑ No

*OR*

## Black Box System – VGA Display Check List

Are all cables and connections tight & strapped? ❑ Yes ❑ No

Does the monitor display the correct color palette? ❑ Yes ❑ No

Are the IF8000 dip switches set correctly? ❑ Yes ❑ No

Is NMEA data connected and activated? ❑ Yes ❑ No

What NMEA devices are connected: ____________________

Has CH252 control head installation & operation been checked? ❑ Yes ❑ No

Is the unit grounded properly? ❑ Yes ❑ No

## CH273 Transceiver Unit Check List

Are all cables and connections tight & strapped? ❑ Yes ❑ No

Check and note actual input voltage ____________________

Is the unit grounded properly? ❑ Yes ❑ No

## Motion Sensor or Incinometer Check List

Which sensor is being used, BS704 or MS100? ❑ BS704 ❑ MS100

Where is the sensor located? ____________________

Has the sonar been programmed to look for the sensor? ❑ Yes ❑ No

## Sonar Tube Installation Check List

Was a Furuno supplied sonar tube used? ❑ Yes ❑ No

If not, what was the ID of the sonar tube used? ____________________

What is the actual length of the sonar tube? ____________________

Where is the sonar tube mounted? ____________________

Is the sonar tube on or off the vessels centerline? ❑ On ❑ Off

Has a sonar tube air venting system been installed? ❑ Yes ❑ No

Has a forward sonar tube fairing been installed? ❑ Yes ❑ No

# CH270 Installation Check Sheet - continued

## CH181 or CH184 Hull Unit Check List

Check and note actual input voltage: ____________________

| | | |
|---|---|---|
| Are all cables and connections tight and strapped? | ❏ Yes | ❏ No |
| Is the unit grounded properly? | ❏ Yes | ❏ No |
| Has the soundome been lowered and raised by hand? | ❏ Yes | ❏ No |
| Have the shaft guides been adjusted for 0.5mm tolerance? | ❏ Yes | ❏ No |
| Does the shaft have a heading mark inscribed? | ❏ Yes | ❏ No |
| Is the soundome 1/2" up, in the sonar tube when retracted? | ❏ Yes | ❏ No |
| Has epoxy been used on shaft threads? | ❏ Yes | ❏ No |
| Has soundome packing sponge been removed? | ❏ Yes | ❏ No |
| Was oil added to the soundome? | ❏ Yes | ❏ No |

*****CAUTION - Do not lay soundome on its side once oil has been added*****

| | | |
|---|---|---|
| Are all the soundome Phillips Head screws tight? | ❏ Yes | ❏ No |
| Have 3 layers of greased cotton packing been used? | ❏ Yes | ❏ No |
| Is the safety clamp installed and tightened? | ❏ Yes | ❏ No |

## Accessories Check List - if applicable

| | | |
|---|---|---|
| Checked operation of the SC-05WR external speaker? | ❏ Yes | ❏ No |
| Checked operation of the CH256 handheld remote control? | ❏ Yes | ❏ No |

## Sea Trial Check List

Date: ____________ Location: ____________

Operator: ____________

Sea conditions: ____________

Maximum detection range for the sea-bottom: ____________

Maximum detection range for fish targets: ____________

| | | |
|---|---|---|
| Has the sonar picture been checked for alignment? | ❏ Yes | ❏ No |
| Has the auto-retraction feature been checked? | ❏ Yes | ❏ No |
| Have the system manuals been given to the operator? | ❏ Yes | ❏ No |
| Was any hoist movement noted at maximum speed? | ❏ Yes | ❏ No |

## Operator Training

Date: ____________ Location: ____________

Trainer: ____________

Training provided for: ____________

## Necessary Follow-up

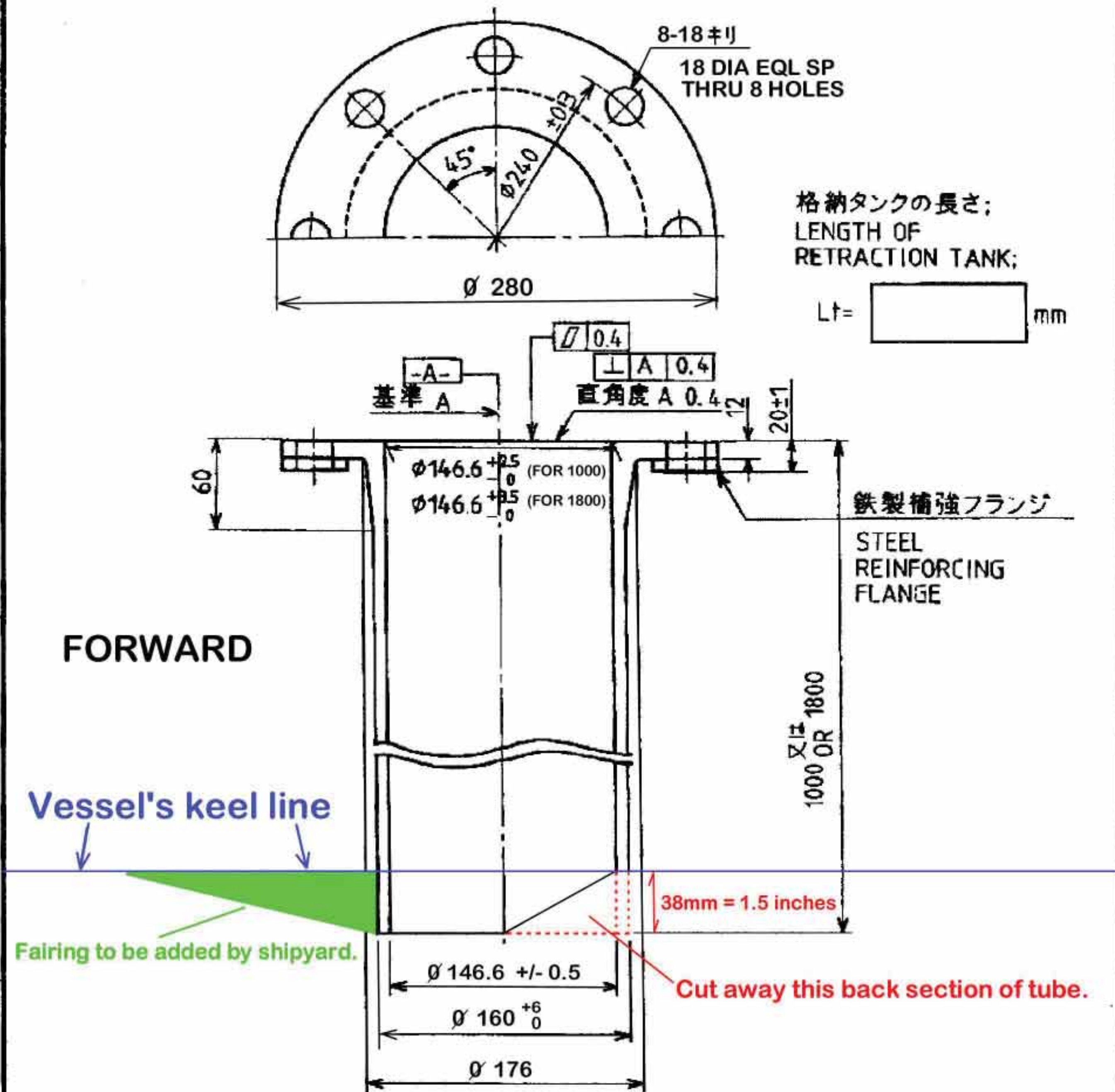
Required for: ____________

When: ____________

## Warranty Card Completed and Sent to Furuno USA

Date: ____________

# Use this drawing for keel installation only.




**Standard tube length is 1 meter (1000mm).**

**Minimum tube length is 24 inches (610mm).**

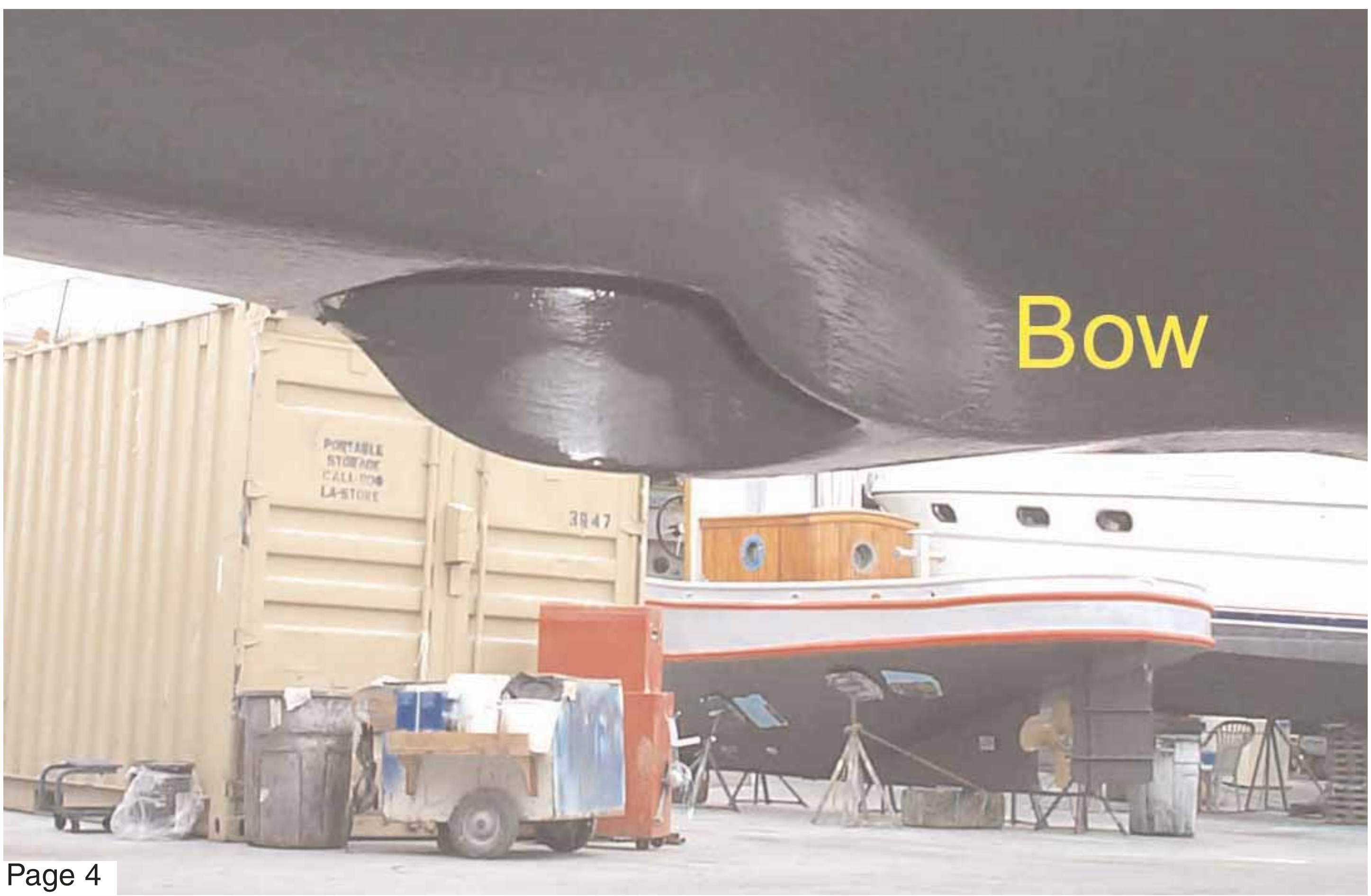
| 品番 ITEM | 品名 NAME | 材質 MATERIAL | 数量 Q'TY | 図番 DWG.NO. | 摘要 REMARKS |
|---|---|---|---|---|---|

| | | | |
|---|---|---|---|
| 承認 APPROVED | SEP. 6. 88 T.NAKANO | 三角法 THIRD ANGLE PROJECTION | 名称 TITLE FRP製格納タンク外観図 FRP RETRACTION TANK OUTLINE DRAWING |
| 検図 CHECKED | Sep. 6. 88 T. [illegible] | 尺度 SCALE 1/4 | |

# Sonar tube fairings for high speed vessels

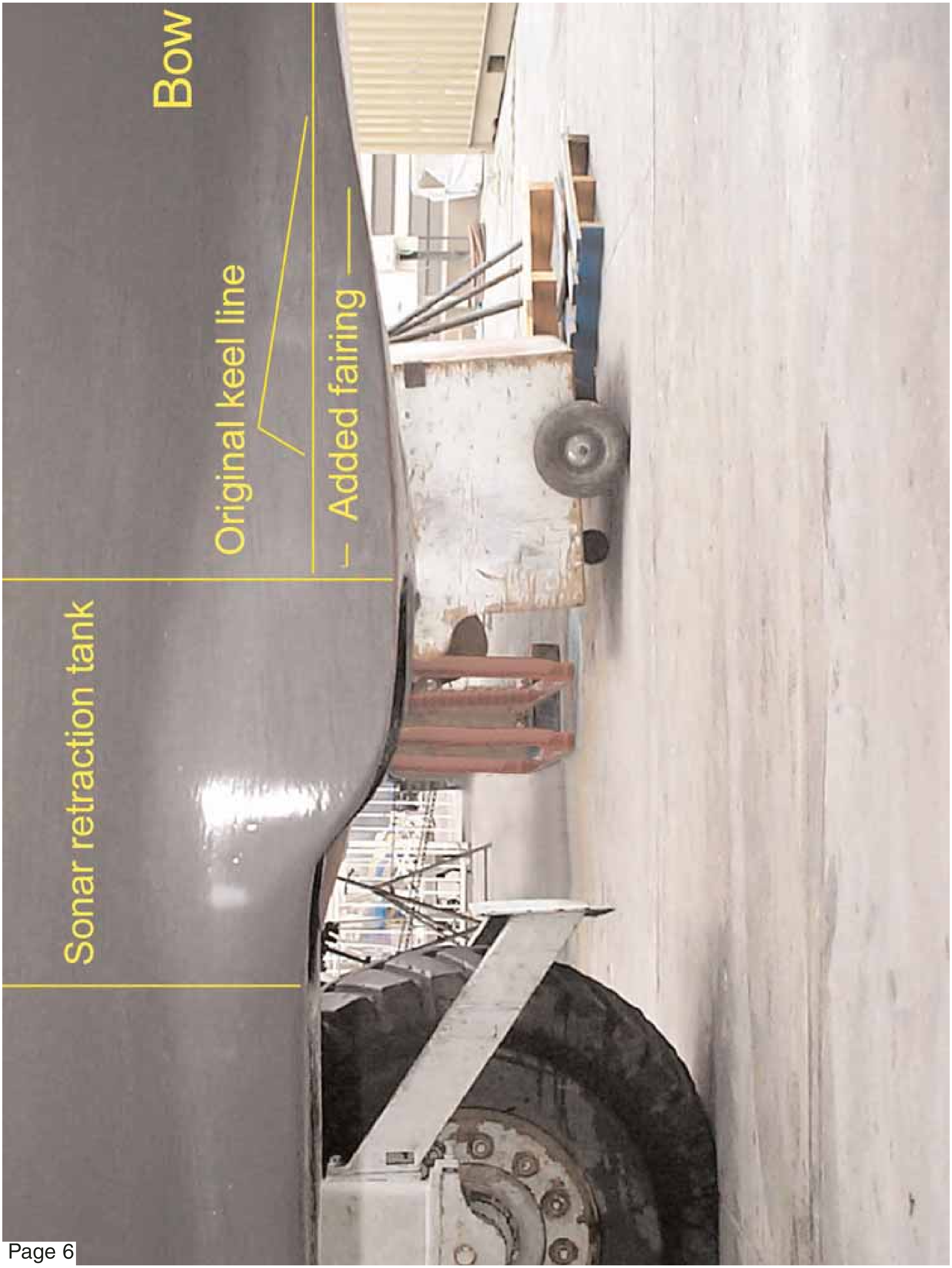
*Today, many CH270 hull tubes have to be placed in the forward part of the vessel. This location almost guarantees underway turbulence. Although a poor location, space limitations usually make it the only site available for the hull tube and hoist. As the installation manual shows, the best location is always one third to one half way back from the bow. This is okay, because a bit of prior planning and on - site fabrication will allow a very successful installation on a fast, planing hull vessel. When the vessel's bow rises or she is on a plane, you must prevent the hull tube rear wall from becoming a large water scoop. A simple but effective fairing must be constructed. The fairing routes (diverts) the water flow away from the tube opening, preventing it from striking the tube's rear wall. The same principles applicable for bow thruster installations are true for any sonar hull tube.*

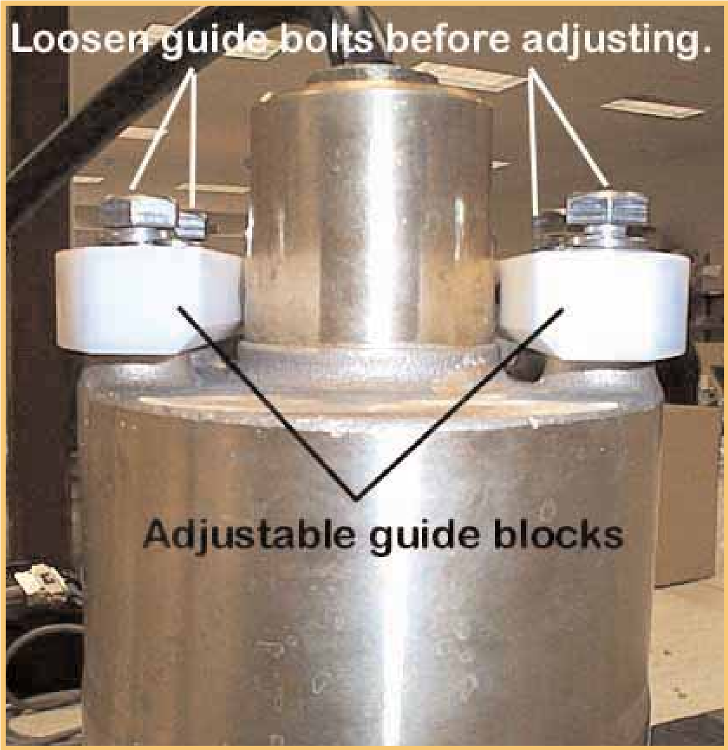
*Properly sized and shaped, the fairing will minimize turbulence and destructive soundome or shaft movement. Some vessels may require several fairing size and shape adjustments to be absolutely successful. Pictures of several typical, successful fairings are attached for your information and use. A carefully fitted installation will insure you many years of reliable, trouble free CH270 sonar operation.*




Bow

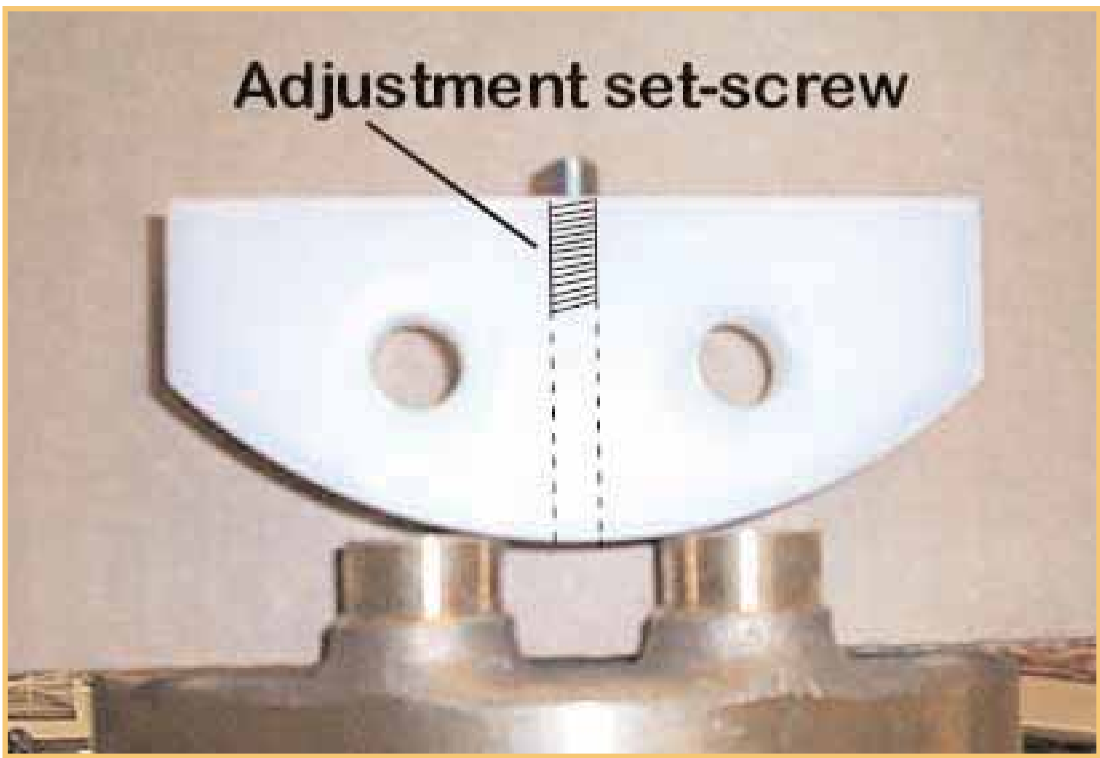

Bow


Bow
Original keel line
Added fairing
Sonar retraction tank










Please confirm that the narrowest gap between the tank guides and the retraction tube wall is **0.5mm.** Adjust if necessary.

# Motion Sensors, Inclinometers and Longer Interconnect Cables

*This valuable accessory unit must be mounted correctly to obtain any benefit from it:*

*a) Select a mounting location that is dry and vibration free*
*b) The selected location should be as close to the sonar hoist unit as possible*
*c) Mount the unit level (only compensating for normal vessel trim)*
*d) Line the unit up "fore and aft" accurately*
*e) Mount the unit "right side up" only*

*If a longer interconnect cable assembly is required, the following options are available:*

| Part number | Description |
|---|---|
| *MS1-CBL-15M* | *15 meter signal cable assembly* |
| *MS1-CBL-30M* | *30 meter signal cable assembly* |
| *MS1-CBL-50M* | *50 meter signal cable assembly* |

*Note:*
*The MS100 compensates for any vessel pitching and rolling at sea. To properly set itself the motion sensor must be powered up while the vessel is in a stable condition. This step is easier to accomplish at the dock. Please get in the habit of powering up the entire CH270 system prior to departing from the dock. This one easy step will ensure proper operation of the MS100 and enhanced CH270 performance for the duration of the voyage.*

# Soundome Cover Removal and Replacement

**To detach or replace the soundome cover assembly, remove the 8 stainless steel cross head cap screws**.

*Once the soundome has been filled with oil, keep it in a vertical position to prevent any internal seepage. If the soundome assembly has to be removed for repair or shipment, the oil must always be removed. You may wish to retain the soundome packing material for future use.*

## Checking Soundome When In Dry Dock

*When the vessel is dry-docked, check for any signs of corrosion on the Soundome assembly. Find the reason for the corrosion and as necessary attach a zinc plate to the hull unit as an anticorrosion measure. The soundome cover may be cleaned with a household plastic scouring pad, such as "Scotch Brite" pads.*

*Please feel free to call us at (360) 834-9300 or visit us on the web at www.Furuno.com if you have any additional questions.*

*Thank you for purchasing the CH270 Searchlight Sonar System!*

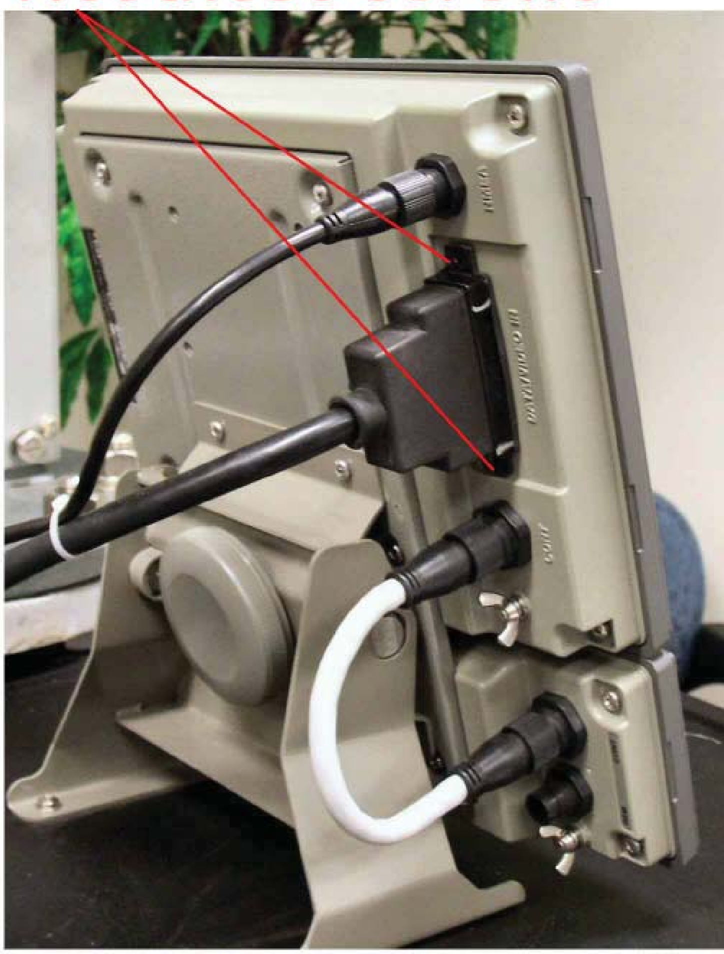
*Furuno U.S.A., Inc.*

# IMPORTANT

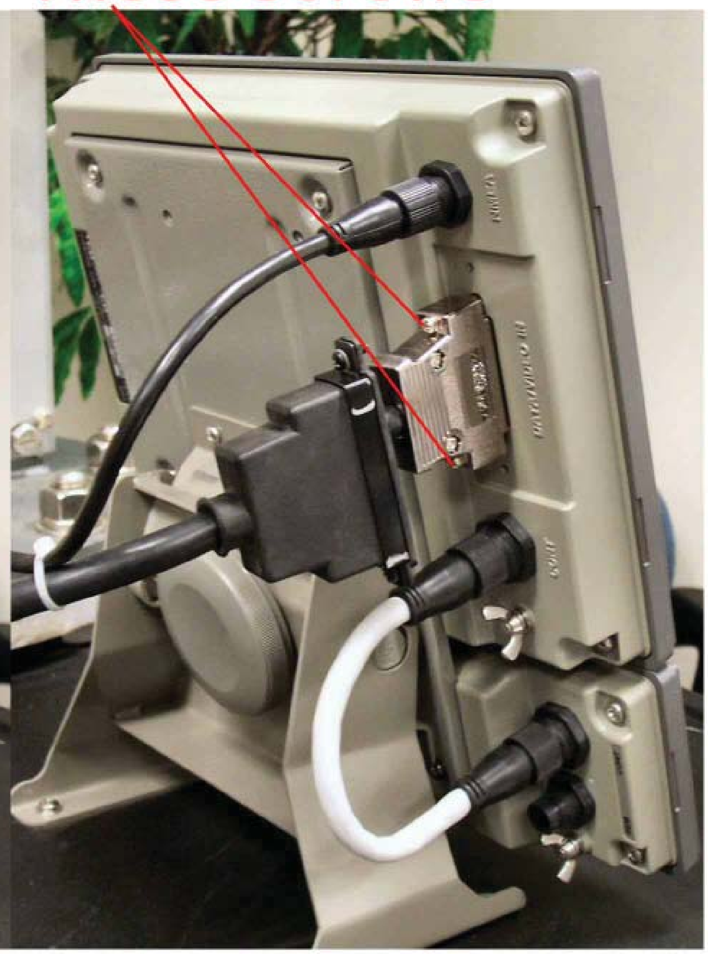
**When installing a sonar or FCV-1200 remember to use the screws on the side of the 25-pin connector (not the rubber boot) to keep the connectors tight.**




## Not these screws



## These screws



TO: All Dealers
RE: CH-270 Erratic targets

FURUNO U.S.A., INC.

Release Date Release No.

We have received a few isolated reports of erratic targets on the CH-270. These problems have been traced to broken wires on the 25-pin J-2 soundome connecter. If a wire comes disconnected the soundome may stick in one position. Please check these connections by lightly pulling on the individual wires and resoldering as required.

If you suspect that you are having a problem you can check the soundome by entering the Diagnostics menu and running a Train/Tilt self test.

| | | |
|---|---|---|
| Pin 1 | Red | TI Motor |
| Pin 2 | Blue | TI Phase 1 |
| Pin 3 | Black | TI Phase 2 |
| Pin 4 | Yellow | TI Phase 3 |
| Pin 5 | White | TI Phase 4 |
| Pin 6 | Red | TR Motor |
| Pin 7 | White | TR Phase 1 |
| Pin 8 | Black | TR Phase 2 |
| Pin 9 | Red | TR Phase 3 |
| Pin 10 | White | TR Phase 4 |
| Pin 11 | Red | TI 93 Degree |
| Pin 12 | White | TI +8 Degree |
| Pin 13 | Red | TR AFT |
| Pin 14 | White | TR Fore |
| Pin 15 | Red | 8V |
| Pin 16 | White | 0V |

